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The Missing Science: Ethics in Practice

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Abstract

The Greeks argued that philosophy was the most important science even though it was a science that studied no things. Their science, philosophy, focused on the meaning of life and death, life after death, existence, knowledge, knowing the good and bad, as well as the application of right and wrong. We argue that what is right and what is wrong should underlie the development of the current book *Sports and Exercise Science*. The stated purposes of the book, "to present the up to date knowledge about etiology, pathogenesis, diagnosis, management and prevention of chronic injuries or sports related long term changes in locomotor system. Moreover, topics about influence of sports activities on growth and development in pediatric population and presentation of acute injuries that often develop to chronic…as well," are topics that should be addressed through science in sports and exercise science—philosophy and ethics. Ethics should govern all science, including the growth and development of sports and exercise science. Injury often occurs because of poor coaching, poor training, or overtraining. The problem exists because of unethical practice of either coaches, parents, leaders, trainers, or a combination of all of them. This chapter focuses on ethical education for professionals, educators, practitioners, and coaches.

Keywords: ethics in sports, coaching ethics, athletic training ethics

1. Introduction

The Ancient Greeks argued that philosophy was the original and most important science even though it was a science that studied no things. Rather, their science, i.e., philosophy, specifically focused on the meaning of life and death, life after death, existence, knowledge, knowing the good and bad, as well as the application of right and wrong. We argue that one of the important questions from the Greeks, what is right and what is wrong, is a philosophical question that should underlie the development of the current book: *Sports and Exercise Science*.

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The stated purposes of the book, "to present the up to date knowledge about etiology, pathogenesis, diagnosis, management and prevention of chronic injuries or sports related long term changes in locomotor system. Moreover, topics about influence of sports activities on growth and development in pediatric population and presentation of acute injuries that often develop to chronic…as well," are topics that should be addressed through the lens of the most important science in sports and exercise science—philosophy and ethics. Ethics governs or should govern all aspects of science none more so than the growth and development of sports and exercise science for all populations.

Injury often occurs because of poor coaching, poor training, or overtraining. In all the above cases, the problem exists because of unethical practice of either coaches, parents, leaders, trainers, or a combination of all of them.

Therefore, this chapter will focus on the importance of ethical education for professionals, educators, practitioners, and coaches. We will address specifically:

A. Youth sports practices, the lack of professional preparation of coaches, and the result of over-practice of children in youth sports.

B. The current sports science and kinesiological curriculums that focus almost entirely on "science" and do not address motor skills training, education, or application for preprofessionals.

C. The lack of philosophy and ethics education in preprofessional programs which focus almost entirely on the science.

D. Overzealous parents who focus on youth sports monetarily, physically, emotionally, and socially support it over all other activities, including education.

2. Youth sports practices, the lack of professional preparation of coaches, and the result of over-practice of children in youth sports

A positive youth sports environment is based around an athlete-centered approach that focuses on the growth and development of young people [1]. When administrators and coaches conduct their youth sports programs with an athlete-centered philosophy, youth sports can provide a safe place where a young person can develop skills, learn to compete, and overcome limitations. In any context, including youth sports, the coach has the most influence on the type of learning environment they create with their team [2]. Thus, the training and experience of the coach or lack thereof are paramount in the coach's ability to create a positive youth sports environment.

Various resources are available to assist coaches in creating a situation where the best interests of young athletes are at the center of the youth sports experience, most notably, the National Standards for Sports Coaches (NSSC) and the International Sports Coaching Framework (ISCF). Both documents cover key areas of sports across all contexts, addressing the need for coaches to be skilled at or trained in conducting practices; managing competitions; building

relationships; teaching communication, safety, injury prevention, and evaluation techniques; providing a vision for the program, and role-modeling ethical practice [3, 4]. (*Note: At the time of this publication, the National Standards for Sports Coaches are being updated to include new information on key areas previously mentioned*).

Established standards provide the framework for youth sports programs to ensure that coaches are trained and equipped to teach, lead, and develop young people through sports. However, the challenge in implementing the standards and/or specific training programs to develop youth sports coaches is complicated by the number of volunteer coaches. In the United States, over 45 million youth aged 6–18 participate in organized sports [5], and it is estimated that a majority of youth sports coaches are volunteer coaches [6]. Lacking time and likely experience as a coach, the volunteer is thrust into a coaching role they may be unprepared to fill. In a study of volunteer coaches, less than 1 in 5 are trained to effectively communicate with youth, and only 33% have been trained to teach sports skills or tactics [7].

With a large percentage of coaches giving their time and many more working part-time, administrators of youth sports will streamline the training process for coaches or provide no training at all. Furthermore, even though the National Standards for Sports Coaches exist, coaches are not required to demonstrate knowledge or implementation of the standards to become a coach or stay in coaching. In other words, at the youth level, the management and oversight of coach training and education are often limited to the youth organization running the program. With inconsistent training and education for coaches, young athletes are potentially exposed to poor teaching and improper training procedures which can lead to overuse injuries. For example, it has been reported that 46–50% of all athletic injuries are a result of overtraining [8]. In addition, the cause of many youth sports injuries is often the result of minimal rest between competitions due to overscheduling by youth program administrators and coaches [8]. In 2016, the NBA and USA Basketball released youth sports participation guidelines. Broken down by the age level, the guidelines include practice length, game length, number of practices/week, number of games/week, and number of games in 1 day [9]. Beyond a lack of understanding on best practices, an untrained coach may struggle to provide instruction on the skills related to the activity and lack of knowledge on how to teach effectively [10]. More importantly, coaches may not be aware of what constitutes ethical practice when working with young people.

This problem has not gone unnoticed; there are a variety of resources (i.e., books, courses, web sites, workshops, clinics, etc.) for coaches covering an assortment of topics related to teaching and working with athletes that include, but are not limited to, tactical skills, technical skills, psychology, risk management, and program management. Unfortunately, youth programs often provide minimal training on ethical leadership and ethical decision-making. This might be because seeking continued education on ethical leadership and ethical decision-making is a long-term approach to getting better and developing as a coach. Even at the youth level, coaches feel pressure to meet expectations driven by results on the field of play and therefore are more likely to seek resources on how to teach technical and tactical skills of sports to achieve short-term results. In addition, coaches do not always equate this type of information as pertinent to their role as a coach. Because they may believe that they are already morally

competent or they lack an understanding of how this type of training or information provides results on the playing field.

Based on a variety of factors including organizational leadership, time, expectation of results related to winning, and a lack of adherence to national standards, the youth sports coach will likely not receive proper training regarding ethical leadership. However, the importance of ethical education for coaches cannot be understated, as coaches have an opportunity to recognize "teachable moments" where character development can occur. The ability of coaches to identify "teachable moments" rests in their knack to pinpoint universal core ethical values [11]. An understanding of character development and universal core values can be developed from a combination of past experience (i.e., environment), moral role models (i.e., teachers, coaches), and formal education. If coaches fail to receive training on ethical leadership (i.e., formal education), they may lack the ability to recognize "teachable moments" and be limited in their ability to serve as a moral role model in the character development of the young people on their team. They may also misunderstand the importance of ethics within coaching practice, training, and game play.

2.1. Solutions

Proper ethical training for sports coaches would involve formal education on ethical decision-making procedures involving the understanding of social and moral character values displayed in sports and the importance of reflective practice.

2.2. Value-based decision-making

A great exercise for a coach in a formal setting is to complete a three-step value audit. Following a discussion on the types of values (i.e., moral, nonmoral, social, etc.), a coach can reflect on what is important to them and develop a list of values. After constructing the list, the coach can give meaning to each value by providing an action statement [12]. In this second step, the action statement describes what the value means to the coach. For example, an action statement for responsibility (a moral value) might read, being accountable for my actions and holding others to the same standard. Once an action statement is added to each value, the third step is to prioritize the value list. The coach must list the values that are important to them. It is important to take a "winner take all" approach, as the coach needs to meet the challenge of placing each value in order to better understand how values guide daily action. By reflecting on their values and completing a value audit, the coach is identifying and evaluating how and what they value guides individual actions each day.

2.3. Reflective practice

Serving others requires hard work, and one aspect of hard work in improving and growing as a leader is reflective practice. Reflective practice is more than evaluating a recent scenario and making adjustments for the next time. It is a deliberate attempt at critical self-evaluation to improve coaching practice. Furthermore, a reflective practitioner will often, either consciously or subconsciously, engage in a reflective behavior. Purposeful, conscious reflective

practice may involve R-cards [13], journaling [2], think-aloud [14], reflective conversation, [2] or a personal leadership narrative [10]. In utilizing one of these activities, the coach is aware of the reflective task, and the effort is deliberate to improve his or her understanding of interactions with their followers. In coaching, by reflecting on our actions when we engaged with others, we increase self-awareness and have a better understanding of how our actions impact others [14], and through the use of reflective practice, techniques over time may develop specific reflective habits.

One of the key components of reflective practice is perspective-taking. In other words, the coach uses reflective practice techniques, often subconsciously to understand what others are thinking and what their needs are. Therefore, the concept of perspective-taking is essentially a reflective exercise demonstrated by the coach. Although purposeful reflective practice techniques can be learned and implemented in learning to lead and improve leadership skills, a coach demonstrating the characteristics of a reflective practitioner may be predisposed to this approach based on personality and their ability to show empathy. Having an empathic mindset toward others likely drives the coach to consider the perspective of those they lead.

The problem that is addressed above is only one issue of the many. The second problem that affects overtraining and injury rates of youth also lies in the science underlying the field of kinesiology.

3. The current sports science and kinesiological curriculums that focus almost entirely on "science" and do not address motor skills training, education, or application for preprofessionals

Fundamental motor skills (FMS) are movement patterns that involve smooth, sequenced patterns of the feet, legs, hands, arms, trunk, and head [15]. These movement patterns (running, hopping, skipping, gliding, jumping, galloping, leaping, and walking) are the building blocks of movement and provide the foundation of physical literacy. These purposeful movement patterns require that an individual be able to feel or sense what one's muscles are doing and know where one's body and body parts are in time and space. More importantly, fundamental movement skills are a prerequisite for individuals to develop good sports skills safely [15–18]. Children who have high levels of FMS are more likely to participate in physical activity, have higher levels of self-esteem, are generally more healthy, and are more likely to remain active throughout their lifespan [19, 20]. Inadequate fundamental movement skills can have a major negative impact on an individual's motor performance and activity later in life [21].

Physical education programs where FMS are the foundation positively impact children developmental growth and physical movement. These programs focus on the skills needed to move and integrate increasingly more complex patterns into sports skills. For example, a hop is springing from one foot and landing on that same foot, while a leap is springing from one foot and landing on the opposite foot which causes the body to travel through time and

space. Not only are the feet required to move in a fluid pattern, but the trunk, arms, and head must also be sequenced to the pattern in order to keep the body upright and smooth. Some fundamental movement patterns such as galloping incorporate alternate actions. Galloping involved stepping forward and pushing off of one foot while the other foot follows, with the individual landing on the trailing foot. Again, this action requires a sequenced movement of the trunk, arms, and head. Sliding is similar; however, one foot slides sideways across the floor, while the other follows. Sliding is the basis of sports skills such as skating and skiing. When the trunk, arms, and head are out of position in the locomotor pattern, an awkward, jerky movement occurs, and the child may lose balance and be unable to move in a predetermine direction. In early childhood physical education classes, children practice each of these skills as individual movement patterns until they become fluid movements.

Gallahue et al. [16] state that FMS is composed of three different constructs: locomotor such as running, hopping, skipping, jumping, leaping, and so forth; control of objects such as striking, and throwing, catching; and non-locomotor (stability) skills such as bending and twisting. The ability to sense shifts in body movement and alter balance to compensate through locomotor skills allows one to know body orientation and become physically competent across complex sports skills. These fluid movement patterns become the foundation of the more complex movement patterns involved in sports skills development [22]. Sequenced together, these fluid movements require large muscle groups to control the body in various situations where one integrates sports skills such as agility, balance, coordination, and strength in smooth body actions.

The developmental progression for children starts at birth and is generally linear [23]. As a 4 year-year old, children should be able to stand on one foot for 5 seconds, stand on tip toes for 3 seconds, without moving the feet, jump forward 3 feet, jump onto a step approximately 8 inches high with two feet, jump over a small hurdle, and while running, be able to change direction and stop easily without losing balance. Early physical activity and education activities should take a developmental approach and foster a strong sequence of fundamental motor skills. Over time, activities should include multiple motor skills that allow children to progress into more complex motor skills movement thus allowing the body to adapt and learn safe movement patterns. These FMS activities should be mastered in early childhood as they are the basis of all physical and sports activities. Moreover, playing sports activities, dance, and other recreational activities safely all require a good command of fundamental movement skills. Inadequate fundamental movement skills in early childhood may have a negative impact on the motor performance in later life [16]. As children mature, the complex nature of sports skills movement requires good balance, flexibility, agility, coordination, and strength [17].

Unfortunately, in today's sports culture, for several reasons, young children are not developing the span of FMS, locomotor, and stability skills as has occurred to a greater extent in the past. First, schools have cut back and/or eliminated structured physical education programs with certified physical education teachers. Second, there has been a concomitant reduction in the number of majors in physical education teaching programs. Therefore, few trained physical

education teachers provide sound FMS practices with young children. Third, university and college sports studies programs have reduced or completely eliminated courses where FMS relative to sports skills progressions have been taught. Thus, sports studies majors have little-to-no knowledge of the importance of FMS and how to teach progressive skills. Fourth, the huge growth in the number of children and youth participating in AAU and other club sports (over 30 million) as early as 4 years old has radically changed how children develop skills. Instead of the large foundation of FMS being taught at an early age, children are learning complex motor skills without the foundational locomotor, non-locomotor, and stability patterns firmly in place. Interestingly, there appears an assumption that because an athlete can play a particular sports they thus must have good FMS.

Yet, coaches at the youth sports level (typically parents), as well as many coaches in junior high, high school, and college, have little-to-no background in any sports education, much less FMS training. Without the understanding of the importance of FMS to all skills development, these coaches teach children sports skills as if they are miniature adults. Finally, the lack of FMS in any kind of a foundational capacity has more than likely impacted the number of injuries (catastrophic and otherwise) among young children and youth, over 3.5 million injuries per year [24, 25]. The most common injuries include sprains and strains of knees, ankles, elbows, and shoulders. A large number of these injuries (sprains and strains) occur in children 5–12 years old, the primary time for FMS development. Oftentimes, these injuries lead to lifelong joint issues.

3.1. Strategies for positive change

3.1.1. FMS skills training should be part of all university sports studies curriculums

Regardless of the focus (pre-physical therapy, strength and conditioning, athletic training, physical education) of a sports studies curriculum, focus should be spent on FMS training strategies. The Society of Health and Physical Education (SHAPE), the American College of Sports Medicine (ACSM), the American College of Pediatricians (ACPeds), and other associated organizations should push for policies which ensure that coaches (physical, psychological, cognitive, emotional, and so forth) in all levels of sports are appropriately trained and certified. And, sports programs should be developed with the appropriate developmental growth of children in mind.

3.1.2. FMS skills training should be part of all coaching education programs

The National Alliance for Youth Sports, AAU, National Federation of High School Activities Association, and other organizations should incorporate FMS skills within their coaching models. Parents and others in coaching capacities at the local levels should be required to become certified through sound coaching education programs. These coaches should know how to demonstrate, analyze, and correct movement of FMS patterns as prerequisites for any sports program.

3.1.3. Work with the local area physical therapists to develop dynamic FMS skills programs for athletes of all ages

Given the significant number of injuries in children and youth between the ages of 5 and 12, a significant need exists for young athletes to be trained in FMS as an integral and ongoing aspect of any sports program. Sports studies professional working with physical therapists can have a positive impact on proper development of FMS in young children [26]. SPARQ (strength, power, agility, reaction time, and quickness) programs that include FMS as the foundation provide youth an opportunity to develop more mature and safer movement patterns while building sports skills.

Why do preprofessional programs have such a dearth in preparation of coaches and what philosophy is driving the issue at hand which brings us to issue C?

4. The lack of philosophy and ethics education in preprofessional programs which focus almost entirely on the science

Once a long time ago, philosophy and ethics were required courses for every university student either in the normal course of events within a department or college of letters [27], and most programs often concluded with a "capstone" class taught by the university president. These capstone courses were directed toward a philosophy of living well and serving well [28]. These courses in toto often were part and parcel of a liberal arts tradition, and one learned that there was such a thing as right and wrong, good and bad, and even what was beautiful and what was not. However, such is not the case today, especially in the field of kinesiology and exercise science, which lies at the root of education for sports, coaching, and teaching [29].

Interestingly, there are very few institutions[1] that have an active, publishing, and researching philosopher of sports or ethicist in the kinesiology discipline. With so few institutions with professors who are trained, educated, and published in the field, there can be no faculty teaching in the subject matter field with merit. We find that interesting [29, 30]. No kinesiological faculty would place a non-exercise physiologist in an exercise science course—but the faculty has no issue with placing an instructor in a philosophy of sports class who has no credentials.

All of this is important in relation to the study within the science of kinesiology. All medical schools require study in medical ethics. Schools of physical therapy require study in medical ethics. However, in the study of kinesiology, there is no general requirement in the study of ethics, period. Such little regard for the importance of ethics speaks volumes about what a student is learning.

A Google search of unethical coaching behavior in sports provides 342,000 hits including numerous academic articles on the lack of ethics as well as many academic texts written by

[1]Penn State University, R. Scott Kretchmar (major professor), has the only degree offered in PhD in History and Philosophy of Sports. Other scholars work in ancillary fields. At the University of Idaho, we offer a PhD degree in Physically Active Lifestyles, with an emphasis in moral reasoning and moral development in sports.

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nonphilosophers. Unethical behavior appears to be common, and unethical behavior that directly affects the health of children is very common [5, 31].

The question then is why do we value our children and their sports experience so little that we do not train, educate, or inform coaches about the important of ethical education? Why? Perhaps, much of this has to do with the love of science and the lack of appreciation for ethics and ethics education [30]. As noted in this chapter, coaches are neither trained nor educated in ethics, and that is a pity because children suffer from overspecialization, overtraining, and poor coaching.

4.1. Strategies for positive change

The long-term strategies for the problem of no-required ethics education in sports education or coaching education are highly problematic. A few textbooks do exist [32, 33], and curriculums for coaches somewhat exist on coaching ethics but nothing of substance. The strategy depends on a reworking of the basic undergraduate education and coaching education to focus on coaching ethics as the fundamentally most important aspect of sports education [30, 34]. Therefore, we recommend not only courses in sports ethics but also an overarching umbrella where the concept of ethical practice becomes part and parcel of all that is taught [35]. That is no easy solution and not something that can be covered in a few pages in this book. However, administrators need to start the dialog for the health of our children who depend on it.

5. Overzealous parents who focus on youth sports monetarily, physically, emotionally, and socially support it over all other activities, including education

"Participation in sports by children and adolescents is associated with a range of documented physical, emotional, social, educational, and other benefits that can last into adulthood" [7]. However, youth sports participation rates have been on a consistent decline. "In 2008, 30.2% of youth ages 6 to 12 were active to a healthy level through sports, organized or unstructured; by 2015, that number had dropped to 26.6%, according to SFIA. Among 13- to 17-year-olds, the rate fell from 42.7% to 39.3%" [7]. Overall, "70% of children are dropping out of organized sports by the age of 13" [36]. A driving question continues to be why?

O'Sullivan [36] attributes this marked decline to multiple reasons, all of which center around a discrepancy between how adults and children understand and expect to experience sports engagement. Shields et al. [37] assert that "parents play an important role in their children's development and value formation." Parental involvement itself is not the issue. Rather, a child's perception of parent involvement is impactful [37].

The feedback and behavior of a parent can affect how long a child stays involved in a sports as well as how a child perceives his or her abilities. The outcome a parent emphasizes and

reinforces, such as winning or improving skills, can have a major effect on what a child deems as success in sports. Moreover, how a parent acts before, during, and after a practice or game can cause a great deal of anxiety in the child. As a result, a child's performance and enjoyment can be impacted [37].

O'Sullivan [36] argues that organized sports have become too heavily structured by adults. Because of this, the activity is less influenced by what kids find fun—noncompetitive activities or activities by children, and more impacted by how adults believe that activities should be played. For example, kids like and want to play which means that kids will have more fun if they have an opportunity to participate. However, an overemphasis on winning influences some coaches to only play the most highly skilled athletes. Additionally, some adults utilize a communication style which focuses on mistakes rather than skills attainment and improvement. A focus on errors and being fearful that making an error will result in less playing time can create an environment where kids become driven by fear, not by fun. Once the activity becomes unenjoyable, O'Sullivan argues that children are likely to seek out other opportunities in which they have more autonomy to create a fun, interactive, positive environment.

Identifying problematic sports parent behaviors is a necessary first step to begin to establish a more positive youth sports participation environment. Smoll et al. [38] identified that parents/guardians who do not engage with their youth's sports experience are overly critical or are overprotective and/or scream and coach from the sidelines can be negatively perceived by his/her child. The frequency of such behavior was measured by Shields et al. [37]. A survey including 803 athletes, 189 parents, and 61 coaches revealed that 14% of parent/guardian respondents "acknowledged having loudly yelled at or argued with a ref or sports official, with fathers apparently more verbally aggressive than mothers" (p. 55). Additionally, 13% […] "acknowledged having angrily criticized their child's sports performance."

5.1. Strategies for positive change

5.1.1. Remember that not all sports parents exhibit negative behaviors

Not all parents/guardians have difficulty providing healthy levels and types of support to their children. Coaches and athletic administrators need to be careful to avoid making general statements or policies which could feel punitive to those who are not contributing to the problem. Additionally, engagement in sports can be a source of positivity for families [38].

5.1.2. Develop an understanding of the purpose and objective of youth sports

Youth sports, while competitive, are not collegiate or professional sports. As such, their purpose differs. Youth sports are a means for kids to learn a variety of skills that can transfer to other phases of their life. Pursuit of victory is less important than pursuit of physical, social, and emotional skills improvement [38]. Understanding this difference is critically important before appropriate behaviors can be agreed upon.

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5.1.3. Develop an understanding of the role and responsibility of a sports parent

Not all children wish to play sports [38]. For those that do, Perhaps it is time for parents to turn their child over to the sports. Doing so ensures that the experience is the child's, not the parent's. Doing so also ensures that kids play because they want to and that if the experience is not fun, positive, and/or healthy, the child can opt not to play with less fear of disappointing their parent(s).

5.1.4. Develop an understanding of appropriate conduct of a sports parent

Smoll et al. [38] recommend the following rules for appropriate parent conduct:

1. Do remain a spectator during the event.
2. Do not interfere with the coach. Parents must be willing to give up the responsibility for their child to the coach for the duration of the practice or game.
3. Do express interest, encouragement, and support to young athletes. Be sure to cheer good effort as well as good performance. Communicate repeatedly that giving total effort is all that is expected.
4. Do not shout instructions or criticisms to the children.
5. Do lend a hand when a coach or official asks for help.
6. Do not make abusive comments to athletes, parents, officials, or coaches of either team.

5.1.5. Develop sound and comprehensive coaching education/training programs

Youth sports coaches need sound, comprehensive training to effectively prepare to coach youth safely and effectively. Skills development, teaching progressions, mental performance enhancement techniques, and effective communication strategies for communicating with youth participants and their parents/guardians are needed. Additionally, youth sports organizations could benefit from creating mandatory parent/guardian training that must be successfully completed prior to children being allowed to begin a sports season. The training could focus on expected conduct.

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